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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,989	01/18/2000	Masami Sugimori	1232-4607	1359

7590 08/11/2004

Morgan & Finnegan LLP  
345 Park Avenue  
New York, NY 10154

EXAMINER

JERABEK, KELLY L

ART UNIT	PAPER NUMBER
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2612

14

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/484,989

Applicant(s)

SUGIMORI, MASAMI

Examiner

Kelly L. Jerabek

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 30-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 30-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This case has been transferred to Examiner Kelly Jerabek. Please direct all future correspondence to Examiner Jerabek whose contact information can be found at the end of this office action.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-8 and 30-36 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-7 and 30-36 rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman US 4,774,565 in view of Otto US 2002/0061063.**

Re claim 1, Freeman discloses in figure 2 an image sensing apparatus including an image sensing device (10). Freeman states that processing may be performed on a digital signal if the analog signals are converted to digital signals for processing (col. 8, lines 39-44). Therefore, an A/D conversion unit is provided to convert an analog image signal outputted by the CCD (10) into a digital signal. The image sensing apparatus also includes color interpolation units (12,14,16) for performing color interpolation on the digital signal converted by the A/D conversion unit and generating image data on a plurality of color planes (Y,G,C) (col. 4, line 49 – col. 5, line 18). In addition, the image sensing apparatus includes color space conversion units (24, 26) for converting a Y,G,C color space to a color space of another colorimetric system such as (Y-G) or (C-G) (col. 5, lines 30-38). Additionally, the image sensing apparatus includes pseudo color removing units (32, 34) for reducing a color component, generated by a color interpolation unit (12,14,16) by controlling a color difference signal (Y-G, C-G) converted by a color space conversion unit (24, 26) so that pseudo color components of image data are reduced (col. 5, lines 43-51). Freeman states that imaging devices such as electronic imaging cameras can record a plurality of images on a disk or tape in either an analog or digital format (col. 1, lines 18-24). Freeman also states that reconstructed signal values that are generated from the two difference signals are used to reproduce the original image scene (col. 3, lines 10-16). Therefore, it can be seen that the reproduced image scene can be recorded on a disk or tape in an analog or digital format. Although Freeman discloses all of the limitations above he fails to include a

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compression unit for compressing the image data in which the pseudo color components are reduced.

Otto discloses in figure 5 a method for compressing color image data for storage and use on a smart card. The invention provides for digital compression of color images for storage of the color images in smart cards and databases (page 3, paragraph 39). Therefore, it would have been obvious for one skilled in the art to have been motivated to include the method for compressing color image data as disclosed by Otto in the digital camera capable of color interpolation as disclosed by Freeman. Doing so would provide a means for digitally compressing color images for storage in inexpensive smart cards or databases (Otto: page 2, paragraph 13).

Re claim 2, Freeman discloses that the pseudo color removing unit comprises median filters (32,34) that replace a value of a pixel of interest with a substantial median pixel value of peripheral pixels of the pixel of interest (col. 5, lines 43-51).

Re claim 3, Freeman discloses that the pseudo color removing unit comprises median filters (32,34) (col. 5, lines 43-51).

Re claim 4, the color interpolation unit of Freeman generates image data (Y,G,C). However, the Examiner takes **Official Notice** that RGB image sensors are well known in the art. Therefore, depending on user specifications, if implementing an RGB sensor it would have been obvious that the interpolation means would generate

image data in the R, G, and B planes that the image was captured in to produce all 3 colors for each pixel location.

Re claim 5, the color space conversion unit of Freeman converts the YGC input signal shown in figure 2 to Y-G, C-G color space. Freeman does not show an embodiment converting RGB to YUV. However, the Examiner takes **Official Notice** that RGB image sensors are well known in the art and converting an RGB signal to YUV is also well known in the art. Depending on the type of image sensor needed, if employing an RGB color filter scheme it would have been obvious to use any color space conversion method such as RGB to YUV so than an input image signal can be properly displayed or recorded in memory.

Re claim 6, the color space conversion unit of Freeman converts the YGC input signal shown in figure 2 to Y-G, C-G color space. Freeman does not show an embodiment converting RGB to Y, R-Y, B-Y. However, the Examiner takes **Official Notice** that RGB image sensors are well known in the art and converting an RGB signal to Y, R-Y, B-Y is also well known in the art. Depending on the type of image sensor needed, if employing an RGB color filter scheme it would have been obvious to use any color space conversion method such as RGB to Y, R-Y, B-Y so than an input image signal can be properly displayed or recorded in memory.

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Re claim 7, the color space conversion unit of Freeman converts the YGC input signal shown in figure 2 to Y-G, C-G color space. Freeman does not show an embodiment converting RGB to G, R-G, B-G. However, the Examiner takes **Official Notice** that RGB image sensors are well known in the art and converting an RGB signal to G, R-G, B-G is also well known in the art. Depending on the type of image sensor needed, if employing an RGB color filter scheme it would have been obvious to use any color space conversion method such as RGB to G, R-G, B-G so that an input image signal can be properly displayed or recorded in memory.

Re claim 30, see claim 1.

Re claim 31, see claim 2.

Re claim 32, see claim 3.

Re claim 33, see claim 4.

Re claim 34, see claim 5.

Re claim 35, see claim 6.

Re claim 36, see claim 7.

**Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over  
Freeman in view of Otto and further in view of applicant's conceded prior art.**

Re claim 1, Freeman in view of Otto includes all of the limitations of claim 1 above. However, Freeman in view of Otto fails to disclose a focusing unit including an infrared ray filter.

The applicant's conceded prior art shows that a focusing unit including infrared ray filters are well known in the art to provide a proper means of directing an object image to the image sensor (specification, page 1). Therefore, it would have been obvious for one skilled in the art to have been motivated to include a focusing unit such as an infrared ray filter as disclosed by applicant's admitted prior art in the digital camera capable of color interpolation as disclosed by Freeman. Doing so would provide a means for reducing moiré or erroneous colors in an image (specification, page 1).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### ***Contacts***

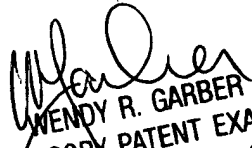
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly L. Jerabek whose telephone number is 703-305-8659. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for submitting all Official communications is 703-872-9306. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at 703-746-3059.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KLJ

  
WENDY R. GARBER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600